

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 19 and 42 are requested to be cancelled.

Claims 20, 21, 34, 35, 37, 39, 43, 44, 47, 48, 50, 51, and 53 are currently being amended.

Claims 55-56 are being added.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 20-41 and 43-56 are now pending in this application.

Allowable subject matter

Applicants appreciate the indication that claims 21-33, 35-36, 39, 47, 51 and 53 contain allowable subject matter. Applicants have amended claims 21, 35, 39 and 47 to be in independent, and thus allowable form. Claims 22-33 ultimately depend from claim 21, and are thus likewise allowable.

Rejections under 35 U.S.C. § 103

Claims 19-20, 34, 37-38, 40-46, 48-50, 52 and 54 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,269,791 to Tanaka (hereafter "Tanaka") in view of U.S. Patent No. 5,494,008 to Ohkawa (hereafter "Ohkawa"). This rejection is moot with respect to claims 19 and 42, which have been cancelled. With respect to the remaining claims, applicants respectfully traverse this rejection for at least the following reasons.

Independent claim 48, as amended, includes a means for setting the estimated internal EGR quantity equal to the base internal EGR quantity when there is no valve overlap between an exhaust valve opening period and an intake valve opening period. Applicants submit that neither Tanaka nor Ohkawa suggest this feature of claim 48.

Tanaka does disclose a relationship between the amount of EGR gas and the valve overlap amount OL of the intake and exhaust gas valves (col. 26, lines 27-43). Moreover, Ohkawa discloses controlling the internal EGR quantity in accordance with a valve overlap quantity (col. 10, lines 9-17).

Neither Tanaka nor Ohkawa, however, discloses setting an estimated internal EGR quantity equal to the base internal EGR quantity when there is no valve overlap between an exhaust valve opening period and an intake valve opening period. Thus, even if combined Tanaka and Ohkawa fail to suggest the invention as recited in claim 48, and claim 48 is patentable over Tanaka and Ohkawa.

New independent claims 55 and 56 have added. Claim 55 recites setting an estimated internal EGR quantity of the engine equal to the base internal EGR quantity when there is no valve overlap between an exhaust valve opening period and an intake valve opening period. Claim 56 recites an internal EGR quantity estimating section to set an estimated internal EGR quantity equal to the base internal EGR quantity when there is no valve overlap between an exhaust valve opening period and an intake valve opening period. Thus, for at least the same reasons as claim 48 discussed above, claims 55 and 56 are also patentable.

Dependent claims 20, 34, 37-38, 40-41, 43-46, 49, 50, 52, and 54 ultimately depend from one of claims 48, 55 and 56 and are patentable for at least the same reasons, as well as for further patentable features recited therein.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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